

# PA-Score

## PA SCORESHEETS

Site Name: HIGHWAY 6 DUMP SITE  
CERCLIS ID No.: TXD987990405  
Street Address: 4501 HIGHWAY 6  
City/State/Zip: HITCHCOCK, TX 77563

Investigator: CYNTHIA SHIRES  
Agency/Organization: FLUOR DANIEL, INC.  
Street Address: 12790 MERIT DR., SUITE 200  
City/State: DALLAS, TX

Date: 01-08-92

0

2

5

4

WASTE CHARACTERISTICS

Waste Characteristics (WC) Calculations:

1 POSSIBLE SPOILS AREA	Surface impoundment	Ref: 1	WQ value	maximum
Area	9.60E+04 sq ft		7.38E+03	7.38E+03

ALTHOUGH THE EXACT SIZE OF THE LARGE PIT CAN NOT BE DETERMINED FROM  
AN OFF-SITE INSPECTION AN ESTIMATE OF 1200 FT BY 90 FT WAS MADE FOR  
THE PUROSE OF CALCULATING THE PA SCORE.

Ref: 1

Waste Characteristics Score: WC = 32

Ground Water Pathway Criteria List  
Suspected Release

Are sources poorly contained? (y/n/u)	U
Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)? (y/n/u)	U
Is waste quantity particularly large? (y/n/u)	U
Is precipitation heavy? (y/n/u)	Y
Is the infiltration rate high? (y/n/u)	N
Is the site located in an area of karst terrain? (y/n)	N
Is the subsurface highly permeable or conductive? (y/n/u)	Y
Is drinking water drawn from a shallow aquifer? (y/n/u)	Y
Are suspected contaminants highly mobile in ground water? (y/n/u)	U
Does analytical or circumstantial evidence suggest ground water contamination? (y/n/u)	N
Other criteria? (y/n)	N

SUSPECTED RELEASE? (y/n) N

Summarize the rationale for Suspected Release:

Ground Water Pathway Criteria List  
Primary Targets

Is any drinking water well nearby? (y/n/u)

Has any nearby drinking water well been closed? (y/n/u)

Has any nearby drinking water well user reported  
foul-testing or foul-smelling water? (y/n/u)

Does any nearby well have a large drawdown/high production rate? (y/n/u)

Is any drinking water well located between the site and other wells  
that are suspected to be exposed to a hazardous substance? (y/n/u)

Does analytical or circumstantial evidence suggest contamination  
at a drinking water well? (y/n/u)

Does any drinking water well warrant sampling? (y/n/u)

Other criteria? (y/n)

PRIMARY TARGET(S) IDENTIFIED? (y/n)

Summarize the rationale for Primary Targets:

GROUND WATER PATHWAY SCORESHEETS

Pathway Characteristics

Pathway Characteristics			Ref.
Do you suspect a release? (y/n)	No		
Is the site located in karst terrain? (y/n)	No		7,8
Depth to aquifer (feet):	1		7,8
Distance to the nearest drinking water well (feet):	999999		2
LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	0		
2. NO SUSPECTED RELEASE		500	
LR =		0	

Targets

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 0 person(s)	0		
4. SECONDARY TARGET POPULATION Are any wells part of a blended system? (y/n) Y	0	4	
5. NEAREST WELL	0	2	
6. WELLHEAD PROTECTION AREA None within 4 Miles	0	0	
7. RESOURCES	0	5	
T =		0	

WASTE CHARACTERISTICS

WC =

0	32
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GROUND WATER PATHWAY SCORE:

2
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Ground Water Target Populations

Primary Target Population Drinking Water Well ID	Dist. (miles)	Population Served	Reference	Value
None				
Total				

Secondary Target Population Distance Categories	Population Served	Reference	Value
0 to 1/4 mile	0	10	0
Greater than 1/4 to 1/2 mile	0	10	0
Greater than 1/2 to 1 mile	0	10	0
Greater than 1 to 2 miles	0	10	0
Greater than 2 to 3 miles	0	10	0
Greater than 3 to 4 miles	332	10	4
Total			4

0  
2  
5  
4

Apportionment Documentation for a Blended System

THE CITY OF HITCHCOCK HAS A WELL WITHIN THE THREE MILE DISTANCE RING  
FROM THE SITE. THIS WELL CONTRIBUTES 5% TOWARD A BLENDED SYSTEM.  
THE POPULATION SERVED BY THE BLENDED SYSTEM ESTIMATED TO BE 6634.

$$6634 \times .05 = 331.7$$

Ref: 10

0  
2  
5  
4

Surface Water Pathway Criteria List  
Suspected Release

Is surface water nearby? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	U
Is the drainage area large? (y/n/u)	N
Is rainfall heavy? (y/n/u)	Y
Is the infiltration rate low? (y/n/u)	Y
Are sources poorly contained or prone to runoff or flooding? (y/n/u)	U
Is a runoff route well defined(e.g.ditch/channel to surf.water)? (y/n/u)	U
Is vegetation stressed along the probable runoff path? (y/n/u)	U
Are sediments or water unnaturally discolored? (y/n/u)	U
Is wildlife unnaturally absent? (y/n/u)	N
Has deposition of waste into surface water been observed? (y/n/u)	N
Is ground water discharge to surface water likely? (y/n/u)	N
Does analytical/circumstantial evidence suggest S.W. contam? (y/n/u)	N

Other criteria? (y/n) N

SUSPECTED RELEASE? (y/n) N

Summarize the rationale for Suspected Release:



Surface Water Pathway Criteria List Primary Targets		
Is any target nearby? (y/n/u)	If yes:	Y
N Drinking water intake		
Y Fishery		
Y Sensitive environment		
Has any intake, fishery, or recreational area been closed? (y/n/u)		N
Does analytical or circumstantial evidence suggest surface water contamination at or downstream of a target? (y/n/u)		N
Does any target warrant sampling? (y/n/u)	If yes:	N
N Drinking water intake		
N Fishery		
N Sensitive environment		
Other criteria? (y/n)		N
PRIMARY INTAKE(S) IDENTIFIED? (y/n)		N
Summarize the rationale for Primary Intakes:		
continued -----		

continued -----

Other criteria? (y/n) N

PRIMARY FISHERY(IES) IDENTIFIED? (y/n) N

Summarize the rationale for Primary Fisheries:

Other criteria? (y/n) N

PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED? (y/n) N

Summarize the rationale for Primary Sensitive Environments:

SURFACE WATER PATHWAY SCORESHEETS

Pathway Characteristics

Pathway Characteristics			Ref.
Do you suspect a release? (y/n)	No		
Distance to surface water (feet):	1000		3
Flood frequency (years):	100		4
What is the downstream distance (miles) to:			
a. the nearest drinking water intake?	N.A.		2
b. the nearest fishery?	0.2		3
c. the nearest sensitive environment?	0.1		5
LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	0		
2. NO SUSPECTED RELEASE		500	
LR =	0	500	



SURFACE WATER PATHWAY SCORESHEETS

Pathway Characteristics

			Ref.
Do you suspect a release? (y/n)	No		
Distance to surface water (feet):	1000		3
Flood frequency (years):	100		4
What is the downstream distance (miles) to:			
a. the nearest drinking water intake?	N.A.		2
b. the nearest fishery?	0.2		3
c. the nearest sensitive environment?	0.1		5
LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	0		
2. NO SUSPECTED RELEASE		500	
LR =	0	500	

0

2

7

4

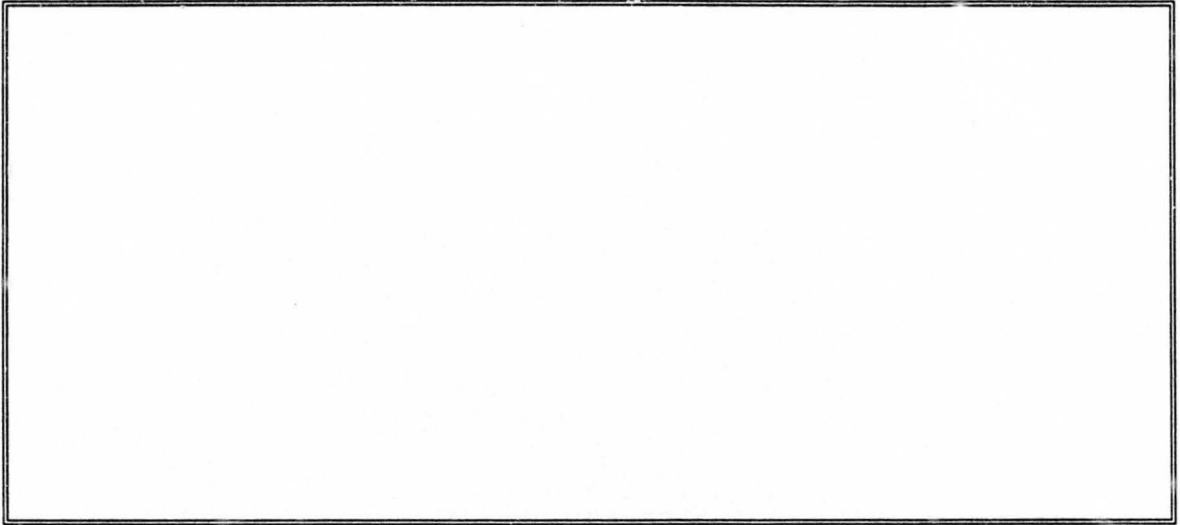
Drinking Water Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
3. Determine the water body type, flow (if applicable), and number of people served by each drinking water intake.			
4. PRIMARY TARGET POPULATION 0 person(s)	0		
5. SECONDARY TARGET POPULATION Are any intakes part of a blended system? (y/n): N	0	0	
6. NEAREST INTAKE	0	0	
7. RESOURCES	0	5	
T =	0	5	

Drinking Water Threat Target Populations

Intake Name	Primary (y/n)	Water Body Type/Flow	Population Served	Ref.	Value
1 NONE	N		0		0
Total Primary Target Population Value					0
Total Secondary Target Population Value					0

Apportionment Documentation for a Blended System



Human Food Chain Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
8. Determine the water body type and flow for each fishery within the target limit.			
9. PRIMARY FISHERIES	0		
10. SECONDARY FISHERIES	0	210	
T =	0	210	

Human Food Chain Threat Targets

Fishery Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
1 UNNAMED POND - WEST	N	<10 cfs	1	210
Total Primary Fisheries Value				0
Total Secondary Fisheries Value				210

Environmental Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
11. Determine the water body type and flow (if applicable) for each sensitive environment.			
12. PRIMARY SENSITIVE ENVIRONMENTS	0		
13. SECONDARY SENSITIVE ENVIRONS.	0	150	
T =	0	150	

Environmental Threat Targets

Sensitive Environment Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
1 NEARBY WETLAND	N	<10 cfs	1	150
Total Primary Sensitive Environments Value				0
Total Secondary Sensitive Environments Value				150

0  
2  
7  
8



Surface Water Pathway Threat Scores

Threat	Likelihood of Release (LR) Score	Targets (T) Score	Pathway Waste Characteristics (WC) Score	Threat Score $LR \times T \times WC$ / 82,500
Drinking Water	500	5	32	1
Human Food Chain	500	210	32	41
Environmental	500	150	32	29

SURFACE WATER PATHWAY SCORE:

71

0  
2  
1  
5

Soil Exposure Pathway Criteria List  
Resident Population

Is any residence, school, or daycare facility on or within 200 feet of an area of suspected contamination? (y/n/u) N

Is any residence, school, or daycare facility located on adjacent land previously owned or leased by the site owner/operator? (y/n/u) N

Is there a migration route that might spread hazardous substances near residences, schools, or daycare facilities? (y/n/u) U

Have onsite or adjacent residents or students reported adverse health effects, exclusive of apparent drinking water or air contamination problems? (y/n/u) N

Does any neighboring property warrant sampling? (y/n/u) N

Other criteria? (y/n) N

RESIDENT POPULATION IDENTIFIED? (y/n) Y

Summarize the rationale for Resident Population:

SITE VISIT REVEALED NEARBY RESIDENCES, GREATER THAN 200 FEET AWAY.

SOIL EXPOSURE PATHWAY SCORESHEETS

Pathway Characteristics

	Ref.
Do any people live on or within 200 ft of areas of suspected contamination? (y/n)	No 1
Do any people attend school or daycare on or within 200 ft of areas of suspected contamination? (y/n)	No 1
Is the facility active? (y/n):	Yes 1

LIKELIHOOD OF EXPOSURE	Suspected Contamination	References
1. SUSPECTED CONTAMINATION LE =	550	

Targets

2. RESIDENT POPULATION 0 resident(s) 0 school/daycare student(s)	0	
3. RESIDENT INDIVIDUAL	0	
4. WORKERS 1 - 100	0	
5. TERRES. SENSITIVE ENVIRONMENTS	0	
6. RESOURCES	0	
T =	0	

WASTE CHARACTERISTICS

WC = 32

RESIDENT POPULATION THREAT SCORE: 2

NEARBY POPULATION THREAT SCORE: 1

Population Within 1 Mile: 1 - 10,000

SOIL EXPOSURE PATHWAY SCORE: 3

Soil Exposure Pathway Terrestrial Sensitive Environments

Terrestrial Sensitive Environment Name	Reference	Value
None		
Total Terrestrial Sensitive Environments Value		

2222

Air Pathway Criteria List Suspected Release	
Are odors currently reported? (y/n/u)	N
Has release of a hazardous substance to the air been directly observed? (y/n/u)	N
Are there reports of adverse health effects (e.g., headaches, nausea, dizziness) potentially resulting from migration of hazardous substances through the air? (y/n/u)	N
Does analytical/circumstantial evidence suggest release to air? (y/n/u)	N
Other criteria? (y/n)	Y
SUSPECTED RELEASE? (y/n)	
N	
Summarize the rationale for Suspected Release:	
<p>THE GALVESTON COUNTY HEALTH DISTRICT INVESTIGATED A COMPLAINT OF ODORS DUE TO BURNING. ON OCTOBER 18, 1985, THE DATE OF THE INSPECTION, KEITH FIEGEL, WITH BAYSHORE RESOURCES WAS LISTED AS THE SOURCE CONTACT. THE PROBLEM WAS LISTED AS TRENCH BURNING OF PLASTICS.</p>	
Ref: 11	

AIR PATHWAY SCORESHEETS

Pathway Characteristics

Do you suspect a release? (y/n)	No
Distance to the nearest individual (feet):	1500

LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	Refer
1. SUSPECTED RELEASE	0		
2. NO SUSPECTED RELEASE		500	
LR =	0	500	

Targets

TARGETS	Suspected Release	No Suspected Release	Refer
3. PRIMARY TARGET POPULATION 0 person(s)	0		
4. SECONDARY TARGET POPULATION	0	5	
5. NEAREST INDIVIDUAL	0	20	
6. PRIMARY SENSITIVE ENVIRONS.	0		
7. SECONDARY SENSITIVE ENVIRONS.	0	12	
8. RESOURCES	0	5	
T =	0	42	

WASTE CHARACTERISTICS

WC =

0	32
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AIR PATHWAY SCORE:

8
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0  
2  
0  
5

Air Pathway Secondary Target Populations

Distance Categories	Population	References	Value
Onsite	0	1	0
Greater than 0 to 1/4 mile	100	3,9	1
Greater than 1/4 to 1/2 mile	30	3,9	0
Greater than 1/2 to 1 mile	344	3,9	1
Greater than 1 to 2 miles	2716	3,9	1
Greater than 2 to 3 miles	2022	3,9	1
Greater than 3 to 4 miles	2696	3,9	1
Total Secondary Population Value			5

Air Pathway Primary Sensitive Environments

Sensitive Environment Name	Reference	Value
None		
Total Primary Sensitive Environments Value		

Air Pathway Secondary Sensitive Environments

Sensitive Environment Name	Distance	Reference	Value
1 NEARBY WETLAND	0 - 1/4	5	12.5
Total Secondary Sensitive Environments Value			12

0  
2  
8  
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PA-Score 1.0 Scoresheets  
HIGHWAY 6 DUMP SITE - 05/05/92

Page: 23

SITE SCORE CALCULATION	SCORE
GROUND WATER PATHWAY SCORE:	2
SURFACE WATER PATHWAY SCORE:	71
SOIL EXPOSURE PATHWAY SCORE:	3
AIR PATHWAY SCORE:	8
SITE SCORE:	36



SUMMARY

1. Is there a high possibility of a threat to any nearby drinking water well(s) by migration of a hazardous substance in ground water? No

If yes, identify the well(s).

If yes, how many people are served by the threatened well(s)? 0

2. Is there a high possibility of a threat to any of the following by hazardous substance migration in surface water?
- |  |    |
|--|----|
| A. Drinking water intake                                     | No |
| B. Fishery   | No |
| C. Sensitive environment (wetland, critical habitat, others) | No |

If yes, identify the target(s).

3. Is there a high possibility of an area of surficial contamination within 200 feet of any residence, school, or daycare facility? No

If yes, identify the properties and estimate the associated population(s)

4. Are there public health concerns at this site that are not addressed by PA scoring considerations? No

If yes, explain:

REFERENCE LIST

1. Cynthia Shires, Fluor Daniel, Inc., Site Visit, Highway 6 Dump Site, December 16, 18, 1991.
2. Gary Stone, City of Galveston Municipal Water District, Telephone Conversation with Bill Park, Fluor Daniel, Inc., November 18, 1991.  
Re: Source of City Drinking Water.
3. U.S.G.S. 7.5 MINUTE SERIES - Topographic maps. VIRGINIA POINT, TX, 1954, photo-revised 1974. TEXAS CITY, TX, 1954, photo-revised 1974.
4. Federal Emergency Management Agency. Flood Insurance Rate Map, City of Galveston, TX, August 15, 1983.
5. U.S. Department of the Interior, Fish and Wildlife Service. National Wetlands Inventory Map. Galveston TX, November 1979.
6. U.S. Department of the Interior, Fish and Wildlife Service. Memorandum to Bill Park listing Endangered Species in Galveston County TX, November 21, 1991.
7. U.S. Department of Agriculture, Soil Conservation Service. Soil Survey of Galveston County, Texas. February 1988.
8. Bureau of Economic Geology. Geologic Atlas of Texas, Houston Sheet, scale: 1:250,000, 1982.
9. U.S. Department of Commerce, Bureau of the Census, County and City Data Book. 1988.
10. Rosemarie Theiler, City of Hitchcock Utilities Department, Telephone Conversation with Cynthia Shires, Fluor Daniel, Inc., January 14, 1992  
Re: Hitchcock Drinking Water.
11. Galveston County Health District. Letter to Cynthia Shires, Fluor Daniel, Inc., Re: Violations cited at Highway 6 Dump Site, October 21, 1991.
12. Reference deleted, but space may be reused